SCD IF Portfolio Review

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Portfolio Review Description

- A Set of Meetings Organized Review Computing Needs of each frontier and set priorities for how to spend its limited resources (effort as well as M&S)
  - IF Meetings held in January
- Process extends to all frontiers but for this talk, we will concentrate on IF.
- Process involves an External Review Panel. Members;
  - Dan Bauer, Lothar Bauerdick, Greg Bock, Steve Brice, Joel Butler, Craig Hogan, Mike Lindgren, Patty McBride, Heidi Schellman and Vicky White

Portfolio Review Description

- Template given to each experiment – asked to discuss scientific priorities for 2013 and 2014 as well as needs. Tasks were discussed, not just the purchasing of "boxes"
    - To accomplish the science, an experiment needs N Simulated events, M rounds of data reprocessing etc…
- Recall – 2013 M&S funds put hardware on floor for 2014 use.

- https://sharepoint.fnal.gov/project/sppm/SitePages/Home.aspx is our official web site for this

Charge to Review Panel

The Fermilab IF program has grown substantially. The lab will have to support many more experimental efforts in the future in this field than we have traditionally. We would like the committee to review each IF experiments plan for computing in 2013 and 2014 . Specifically

1. Did we provide sufficient resources for the experiments to accomplish this FY's scientific goals and objectives?
2. Based on the scientific goals in FY14, what mix of hardware should SCD provide in order to best optimize this program?
3. Identify what non-hardware needs are being sought by the experiment and prioritize

Please provide a brief write-up within a month of the review.
Now available on web site

Agenda

- **PRESENTATION SCHEDULE**
- **Thursday, January 10** – **Snake Pit**
- 1:00   Introduction (10 min) – *Greg Bock / Rob Roser*
- 1:10   Minerva (30 min) – *Rick Snider*
- 1:40   ArgoNeuT (30 min) – *Tingjun Yang*
- 2:10   MicroBooNE (30 min) – *Catherine James*
- 2:40   Executive Session
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- **Friday, January 11** - **Comitium**
- 9:00   Introduction (10 min) – *Rob Roser*
- 9:10   Mu2e (30 min) – *Rob Kutschke*
- 9:40   g-2 (30 min) – *Adam Lyon*
- 10:10   NOvA (30 min) – *Craig Group*
- 10:40   LBNE (30 min) – *Eileen Berman*
- 11:10   Executive Session
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- **Thursday, January 17** – **Racetrack (WH7 crossover)**
- 1:00   Tevatron Needs (30 min) – *Margaret Votava*
- 1:30   Minos (30 min) – *Art Kreymer*
- 2:00   Executive Session
- 3:30   Review Closeout: SCD Proposed Procurement Plan (30 min) – Stu Fuess / Rob Roser

- Deploy the available but unallocated BlueArc disk currently on the floor to meet todays IF needs.

- Execute most of the disk requests for the IF but start transitioning IF experiments off BlueArc to regular cache disk

- Continue the process of repurposing Tevatron Computing hardware to meet the IF needs.

    ▪ Continue to transition CPU and begin to free up some of the more than 3 petabytes of cache disk and transfer that to IF experiments.

- Do not purchase new Tevatron cache disk

Findings From the External Committee

- Do not purchase any new CPU's.
  - Leave some of the out-of-warranty machines on the floor through march to insure a successful winter conference season.
  - Encourage and assist the IF experiments in running their simulations on non Fermilab GRID resources and take advantage of other available computing. This will free up CPU for analysis and should be sufficient to handle the various 'bursts" that occur throughout the year.
- Use these now unspent M&S resources to add additional effort to tackle the to-do list of items presented by the experiments.

List of Requests (no priority order)
Can Not do all this in a timely fashion with current resources

- Provide help in tuning Genie

- ART/LarSoft -- continued development and consulting -- interest in multicore

- Create workbook/tutorial for ART -- including some specifics for each of the participating experiments to help bring people up to speed faster

- Provide help in optimizing GEANT4 as experiments push downward in thresholds

- Help/impetus in moving MC simulation off FNALmachines to other GRID sites

- Encourage more cache/tape useage -- and rely less on disk – being addressed by moving experiments to SAM-LITE

- Need to move everyone to the same ART build tools

- Migration help off Gaudi -- at least off Pool data format into Root

- Need a way to understand/manage/ quota's for bluearc disk usage to facilitate removal of unnecessary files

- Profiling tool for ART framework

- Investigate alternative computing strategies for analyses that are I/O limited

- Microboone Operations DAQ Support

- Additional Database Support

Conclusions

- Portfolio Review was very successful

- Engaged all experiments/stakeholders

- Provided an excellent and pretty complete snap-shot of computing needs from the IF experiments and what their plans are to move forward

- Report from committee exists

- Still plan to follow process for C.F. expts/projects this spring

- In future years, will ask experiments to project needs two years out to help with planning for future needs